

DISTRIBUTIONAL DATA, ILLUSTRATIONS, AND HABITAT
OF THE SOUTH AMERICAN WATER-STRIDER
MICROVELIA AYACUCHANA (HEMIPTERA: VELIIDAE)

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Abstract.—The microveline water-bug *Microvelia ayacuchana* Drake and Maldonado Capriles [sic] (1952) is illustrated for the first time. A habitus view, the antennae, and the male and female genitalia are illustrated by pen and ink drawings and the surface sculpture of selected parts of the body are illustrated by scanning electron micrographs. Known distribution records for this species from Brazil, Guyana, Surinam, and Venezuela are reported. Habitats are discussed and a photograph of one of the biotopes is included.

During a fieldtrip to collect aquatic Coleoptera, Hemiptera, and other insects in the Takutu Mountains of Guyana in November and December, 1983, numerous aquatic Hemiptera were collected by members of an Earthwatch Expedition. Among the water bugs were 10 distinctive winged specimens of a large species of *Microvelia*. An examination of those specimens and comparison with the type specimens of *Microvelia* in the Drake collection and the general collection of aquatic Hemiptera in the U.S. National Museum of Natural History, Smithsonian Institution confirmed that the specimens from Guyana are conspecific with *Microvelia ayacuchana* Drake and Maldonado Capriles [sic] (1952). More recently, 19 and 24 February 1986, Spangler collected 22 more specimens of this species near the type locality, Puerto Ayacucho, T.F.A., Venezuela.

Because *M. ayacuchana* is rare in collections; belongs to a large genus with 81 described species in the Western Hemisphere that are similar in external morphology, sculpture, and color; has not been previously illustrated; and has not been included

in any keys; we have prepared this article with the hope that it will allow the reader to identify this species more easily.

The type specimens of *M. ayacuchana* were collected by J. Maldonado at Puerto Ayacucho, Venezuela, in May and June 1950; and Drake and Hussey (1955), in their checklist of the species of *Microvelia*, reported *M. ayacuchana* from British Guiana [now Guyana]. There are no specimens of the species from "British Guiana" in the NMNH but the record may have been based on borrowed specimens; unfortunately, the source of the specimens was not given. There has been nothing reported about *M. ayacuchana* since Drake and Roze (1958) listed it as one of the seven species of *Microvelia* reported from Venezuela.

The description of *Microvelia ayacuchana* by Drake and Maldonado Capriles [sic] (1952) is adequate for the external morphological characters as seen under a stereoscopic microscope. Additional external characters, some illustrated by scanning electron micrographs, and genitalic characters are discussed below. A habitus view (Fig. 1) and the dissected and cleared male

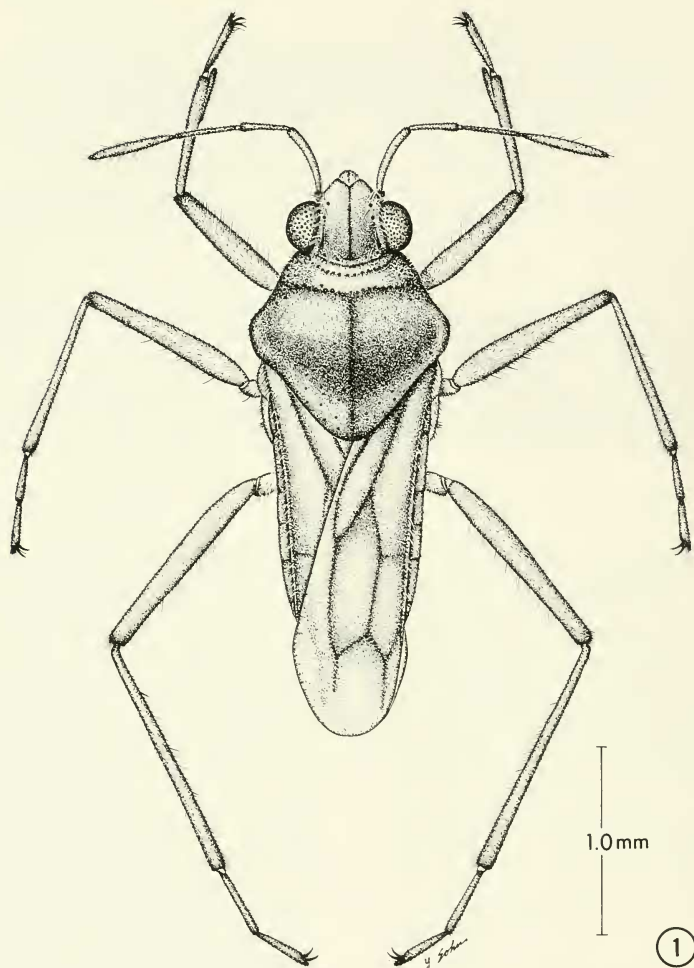


Fig. 1. *Microvelia ayacuchana*, male, habitus view.

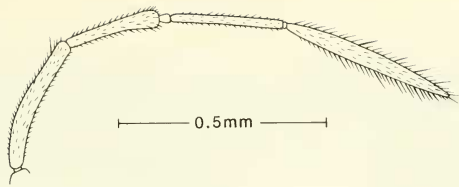
genitalia (Figs. 13, 14) and female genitalia (Figs. 15, 16) of *M. ayacuchana* are illustrated for the first time.

***Microvelia ayacuchana* Drake and
Maldonado Capriles [sic]**

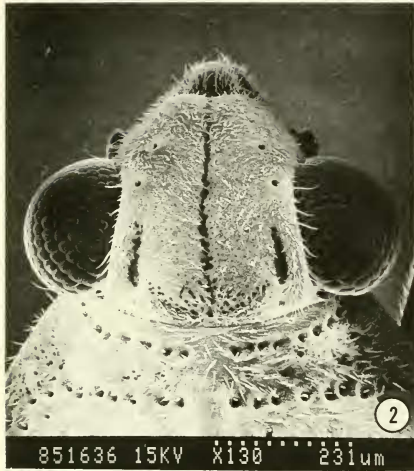
Additional descriptive characters.—Macropterous adult males longer (2.75 to 3.16 mm) than most members of genus. Head

(Fig. 2) with longitudinal groove on midline distinct, 3 pairs of trichobothria, ocelli absent. Antennae (Fig. 3) long; 4 segmented; internodal piece between segments 2 and 3 and another between segments 3 and 4; antennal segment ratios 17:13:17:23. Rostrum 3 segmented, extending to mesocoxae; mandibular stylets toothed (Fig. 4).

Mesoscutellum covered by posterior ex-



3



2



4

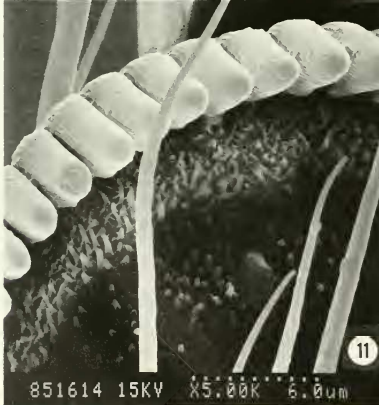


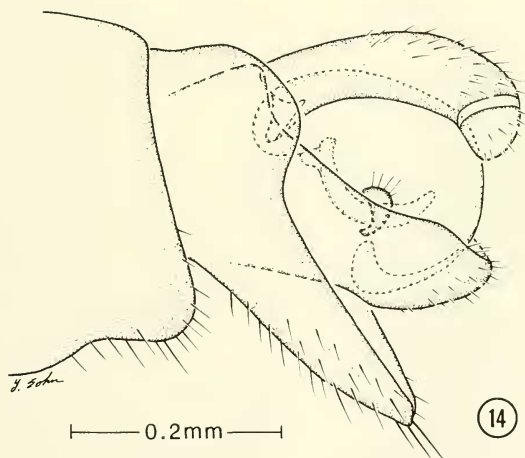
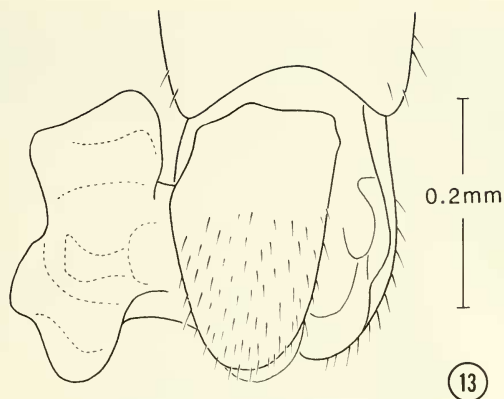
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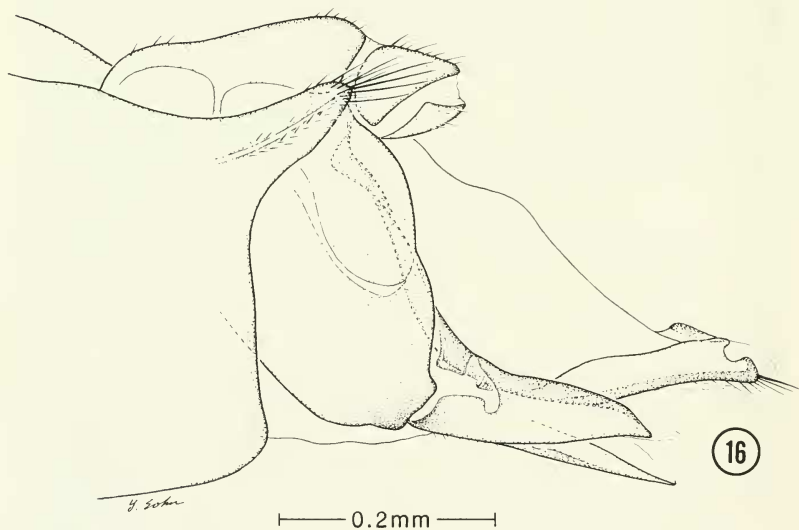
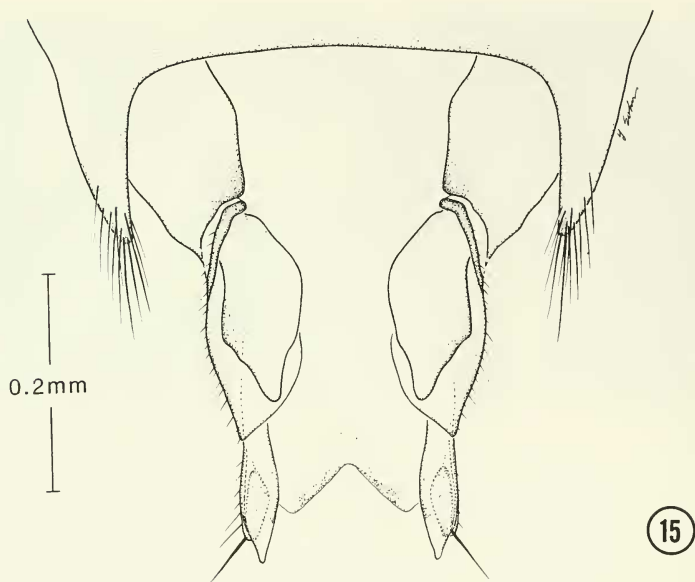
Figs. 2-6. *Microvelia ayacuchana*. 2, Head. 3, Antenna. 4, Mandibular stylets. 5, Head, pronotum, and evaporatorium tuft. 6, Methathoracic scent gland channels.





Figs. 13, 14. *Microvelia ayacuchana*. 13, Male genitalia, extended in alcohol, dorsal view. 14, Male genitalia, cleared in KOH, lateral view.

Figs. 7-12. Figs. 7-10. *Microvelia ayacuchana*. 7, Campaniform sensillum, base of protarsal segment. 8, Campaniform sensillum enlarged. 9, Protibial grooming comb (arrow) and grasping combs, male. 10, Protibial grasping comb, male. Figs. 11, 12. *Microvelia ayacuchana*. 11, Protibial grasping comb, male, enlarged. 12, Protarsal claws.



Figs. 15, 16. *Microvelia ayacuchana*. 15, Female genitalia, extended in alcohol, dorsal view. 16, Female genitalia, lateral view.



Fig. 17. *Microvelia ayacuchana*, pothole biotope at Tobogan area, 40 km south of Puerto Ayacucho, T.F.A., Venezuela.

tion of pronotal lobe (Fig. 5). Metathoracic scent gland channels (Fig. 6) terminate in an evaporatorium bearing a prominent tuft of long setae (Fig. 5, arrow) on pleuron in front of metacoxae.

Protarsus with 1 campaniform sensillum dorsally at base of ultimate segment (Figs. 7, 8). Front tibia of male with a short, transverse, apical, grooming comb of stout setae on dorsal margin (Fig. 9, arrow) and a long grasping comb (Figs. 9–11) of short stout spines on inner (ventral) surface of distal third. Claws (Fig. 12) distinctly inserted before apex of last tarsal segment.

Male genitalia (Figs. 13, 14) with aedeagus with membranous vesica; parameres minute. Female genitalia (Figs. 15, 16) with proctiger broad, decurved, covering gonocoxal and genital opening.

Specimens examined.—Specimens from the John T. Polhemus collection are indicated by (JTP) and those from the National Museum of Natural History, Smithsonian Institution are indicated by (NMNH). Representative specimens will be deposited in the Instituto de Zoología Agrícola, Univer-

sidad Central de Venezuela, Maracay, Venezuela.

BRAZIL: AMAZONAS: Lago Salgado, Jg. duebra d., 29.4.48, H. Sioli, 2 males (JTP). GUYANA: POTARO-MAZARUNI DISTRICT: Takutu Mountains, 6°15'N 59°5'W, 3–10 Dec. 1983, P. J. Spangler, R. A. Faitoute, P. D. Perkins, 3 males, 7 females (1 on SEM stub) (NMNH). SURINAM: Sipaliwini River, 13-VI-63, 6 males, 6 females (NMNH). VENEZUELA: TERRITORIO FEDERAL AMAZONAS: Puerto Ayacucho, 15 June 1950, J. Maldonado Capriles, holotype male, allotype (NMNH); same data, 1 male, 2 females (paratypes) (JTP); Puerto Ayacucho (40 Km S) at Tobogán, 19 Feb. 1986, P. J. Spangler, 1 male, 1 female (NMNH); same data except 24 Feb. 1986, 16 males, 4 females (NMNH). One additional paratype with the same data as the holotype except 15 May 1950 has not been found.

Habitat.—The specimens from Guyana were collected from the shaded margin of a slowly flowing brook in the rainforest. The series from the Tobogán area south of Puer-

to Ayacucho, Venezuela, were found on the water of a small pothole (Fig. 17) in bedrock beside a small stream; the pothole was exposed to full sunlight for a relatively short time during the day.

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